

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-st amended
37. (Currently Amended) A method for manufacturing ~~process~~ for an organic EL element having a stacked structure including a hole injecting or ~~and~~ transporting layer and a light-emitting layer formed within a partitioning member which is divided into individual pixel areas, the method comprising:

forming an anode layer;

forming the partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to the pixel areas;

J forming a hole injecting or ~~and~~ transporting layer by independently filling each of the openings with a composition for the hole injecting or ~~and~~ transporting layer using an ink-jet head, the composition comprising (1) a conductive material containing at least a lubricant, polyethylene dioxythiophene, and polystyrene sulfonic acid, and (2) a solvent;

drying the composition filled in the openings to form the hole injecting or ~~and~~ transporting layer; and

independently filling each of the openings with a light-emitting layer composition over the hole injecting or transporting layer using an ink-jet head to form the light-emitting layer, wherein a height of the hole injecting or transporting layer and the light-emitting layer is less than that of the partitioning member;

forming a cathode layer over the light-emitting layer.

38. (Currently Amended) The method for manufacturing ~~process~~ of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

39. (Currently Amended) The method for manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

40. (Currently Amended) The manufacturing ~~process~~ of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

41. (Currently Amended) The manufacturing ~~process~~ of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

42. (Currently Amended) The manufacturing ~~process~~ of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

43. (Currently Amended) The manufacturing ~~process~~ of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

44. (Currently Amended) The manufacturing ~~process~~ of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm,

and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

45. (Currently Amended) The method for manufacturing of ~~process according to~~ claim 37, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

46. (Currently Amended) The method for manufacturing of ~~process according to~~ claim 45, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

47. (Currently Amended) The method for manufacturing of ~~process according to~~ claim 46, wherein the lower alcohol is methanol or ethanol.

48. (Currently Amended) The method for manufacturing of ~~process according to~~ claim 45, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

49. (Currently Amended) The method for manufacturing of ~~process according to~~ claim 48, wherein the at least one solvent selected from the group is ethoxy ethanol.

50. (Cancelled)

51. (Currently Amended) The manufacturing process ~~according to~~ of claim 37, wherein the lubricant is glycerin.

52. (Cancelled)

53. (Currently Amended) The method for manufacturing process of claim 37, wherein a film thickness of the hole injecting or and transporting layer is 0.1 μm or less.

54. (Currently Amended) The method for manufacturing process of claim 53, wherein a film resistance of the hole injecting or and transporting layer is in the range $0.5 \times 10^9 \Omega/\text{m}^2$ to $5 \times 10^9 \Omega/\text{m}^2$.

55. – 61. (Cancelled)

62. (Currently Amended) A method for manufacturing an electroluminescent display, the method comprising:

(1) manufacturing a stacked EL element having a stacked structure including a hole injecting or transporting layer and a light-emitting layer formed within a partitioning member which is divided into individual pixel areas, wherein the step of manufacturing the stacked EL element comprises:

forming an anode layer;

forming a the partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to the pixel areas;

forming a hole injecting or transporting layer by independently filling each of the openings with a composition for a the hole injecting and or transporting layer using an ink-jet head, the composition comprising (a) a conductive material containing at least a lubricant, polyethylene dioxythiophene, and polystyrene sulfonic acid, and (b) a solvent;

drying the composition filled in the openings to form the hole injecting and or transporting layer; and

independently filling each of the openings with a light-emitting layer composition over the hole injecting or transporting layer using an ink-jet head to form the light-

emitting layer, wherein a height of the hole injecting or transporting layer and the light-emitting layer is less than that of the partitioning member;

forming a cathode layer over the light-emitting layer; and

(2) incorporating the stacked EL element into the electroluminescent display.

63. (Cancelled).

64. (Currently Amended) A ~~manufacturing process according to~~ method for manufacturing of claim 37, wherein the lubricant is diethylene glycol.

65. (Cancelled) .

66. (Currently Amended) A method for manufacturing ~~according to~~ of claim 62, wherein the lubricant is diethylene glycol.

67-82. (Cancelled)

83. (Currently Amended) The method for manufacturing ~~process~~ of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

84. (Currently Amended) The method for manufacturing ~~process~~ of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

85. (Currently Amended) The method for manufacturing ~~process~~ of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

86. (Currently Amended) The method ~~of~~ for manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

87. (Currently Amended) The method ~~of~~ for manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

88. (Currently Amended) The method ~~of~~ for manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

89. (Currently Amended) The method ~~of~~ for manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

Appl. No. 09/297,483
Amendment dated July 18, 2003
Reply to Advisory Action of June 17, 2003

Attorney Docket No. 81756.0003

90. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 62, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

91. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 90, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

92. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 91, wherein the lower alcohol is methanol or ethanol.

93. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 90, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

94. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 93, wherein the at least one solvent selected from the group is ethoxy ethanol.

95. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 62, wherein the lubricant is glycerin.

96. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 62, wherein a film thickness of the hole injecting or ~~and~~ transporting layer is 0.1 μm or less.

97. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 62, wherein a film resistance of the hole injecting or ~~and~~ transporting layer is in the range $0.5 \times 10^9 \Omega/\text{m}^2$ to $5 \times 10^9 \Omega/\text{m}^2$.

98-112. (Cancelled)

112. (Currently Amended) The method ~~of~~ for manufacturing ~~according to~~ of claim 63, wherein a film resistance of the hole injecting or ~~and~~ transporting layer is in the range $0.5 \times 10^9 \Omega/\text{m}^2$ to $5 \times 10^9 \Omega/\text{m}^2$.

113. (Currently Amended) An organic EL element, having a stacked structure including a hole injecting ~~and~~ or transporting layer and a light-emitting layer formed within a partitioning member which is divided into individual pixel areas, manufactured by a manufacturing process, comprising:

forming an anode layer;

forming the partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to pixel areas;

forming a hole injecting ~~and~~ or transporting layer by independently filling each of the openings with a composition for the hole injecting ~~and~~ or transporting layer using an ink-jet head, the composition comprising (1) a conductive material containing at least a lubricant, polyethylene dioxythiophene, and polystyrene sulfonic acid, and (2) a solvent;

drying the composition filled in the openings to form the hole injecting ~~and~~ or transporting layer; and

independently filling each of the openings with a light-emitting layer composition over the hole injecting or transporting layer using an ink-jet head to form the light-emitting layer, wherein a height of the hole injecting or transporting layer and the light-emitting layer is less than that of the partitioning member;

forming a cathode layer over the light-emitting layer.

114. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170° .

115. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

116. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

117. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

118. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

119. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

120. (Previously Amended) The organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm,

and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

121. (Currently Amended) The organic EL element ~~according to~~ of claim 113, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

122. (Currently Amended) The organic EL element ~~according to~~ of claim 121, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

123. (Currently Amended) The organic EL element ~~according to~~ of claim 122, wherein the lower alcohol is methanol or ethanol.

124. (Currently Amended) The organic EL element ~~according to~~ of claim 121, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

125. (Currently Amended) The organic EL element ~~according to~~ of claim 124, wherein the at least one solvent selected from the group is ethoxy ethanol.

126. (Currently Amended) The organic EL element ~~according to~~ of claim 113, wherein the lubricant is glycerin.

127. (Currently Amended) The organic EL element ~~according to~~ of claim 113, wherein a film thickness of the hole injecting or ~~and~~ transporting layer is 0.1 μm .